

# IMPACTS OF CLIMATE CHANGE ON WATER REOURCES IN AFRICA

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- African economies and community livelihoods are dependent on rain fed agriculture that is highly sensitive to weather and climate variability
- Climate extremes such as droughts, floods, changes in the patterns of cold/hot/wet/dry spells, etc have adverse impacts on the agriculture sector.
- Climate variability/change can also modify the risks associated with diseases, pests, fires, conflicts, etc that can negatively impact on food, fiber and forestry productivity.

# Impacts of climate change on agriculture

- Reduction in the amount of agricultural land
- Shortening of the length of growing season
- Decrease in agricultural productivity. This signal is already evident in the high agricultural potential areas. In semi-arid and arid regions (Some modeling studies have shown that in some countries, crop yields from rain-fed agriculture could fall by 50 percent by 2030)
- Increased food insecurity and malnutrition across the continent
- Emergence of crop and livestock diseases.
- Increased cases of trans boundary animal
- Species Invasion (wildlife, weeds, etc)

# Climate change and Water resources

- Water resources in Africa are highly vulnerable to climate change owing to their high dependence on precipitation
- Extreme variability of rainfall in Africa has led to uneven distribution of surface and ground water resources across its six sub-regions (southern, eastern, central, western, northern Africa and the WIOI states)

- The already water stressed regions (North Africa, etc) will experience decreased soil moisture and reduced surface and ground water resources, with accompanying increase in salinization of irrigated agricultural fields

- Global warming in the worse case scenario is expected to cause 1m sea-level rise by 2100
- **Consequences:** loss of coastal land, agricultural opportunities, groundwater resources and loss of biodiversity critical to community support and livelihoods, displacement of people, water related diseases and water supply problems

- Climate change would in addition bring about increased evaporation in some areas to the north of west Africa with a possibility of increasing the rate of desertification in the Sahel
- The predicted increase in floods and droughts under climate change will thus exacerbate the vulnerability of Africa's water resources.

# Issues to think about

- Given the high competition for the dwindling water resource amongst socio-economic sectors, what is the future of rain-fed agriculture in Africa?
- What are the impacts of climate change on animal diseases occurrence, including weakening of host immune capacity?
- Does climate change have impact on trans boundary animal diseases?
- What is the future of surface and ground water in Africa?
- What is the future of irrigated agriculture in Africa?



THANK YOU